

**REMARKS**

By this amendment, Applicants have amended claims 1, 6, 9, 12, 15, 16, 18, 22, 26, 28, and 29, and canceled claims 11, 13, and 14. No new matter has been added. Accordingly, claims 1-10, 12, and 15-29 remain pending.

In the outstanding Office Action (hereinafter, "Office Action") mailed September 6, 2006, the Examiner rejected claims 15-17 and 29 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,956,541 to McClintock (hereinafter, "*McClintock*"); rejected claims 1-13, 18, 19, and 21-25 under 35 U.S.C. § 103(a) as being unpatentable over *McClintock* in view of U.S. Patent No. 6,492,982 to Matsuzaki et al. (hereinafter, "*Matsuzaki*"); rejected claim 20 under 35 U.S.C. § 103(a) as being unpatentable over *McClintock* in view of *Matsuzaki* and further in view of U.S. Patent Publication No. 2005/0149632 to Minami et al. (hereinafter, "*Minami*"); rejected claims 26 and 27 under 35 U.S.C. § 103(a) as being unpatentable over *McClintock* in view of U.S. Patent No. 6,999,045 to Cok (hereinafter, "*Cok*"); and indicated that claims 14 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Applicants appreciate the Examiner's indication that claims 14 and 28 would be allowable if rewritten in independent form. By this amendment, Applicants have incorporated the subject matter of claim 14 cited in the Examiner's reasons for allowance, as well as the subject matter of intervening claims 11 and 13, into independent claim 9. Consequently, Applicants respectfully submit that independent claim 9 is allowable for at least the reasons indicated on page 17, lines 7-11 of the



Office Action. Intervening claims 10 and 12 remain dependent on claim 9 and are therefore allowable for at least the reason that they depend from an allowable claim.

By this amendment, Applicants have also incorporated the subject matter of claims 26 and 27, as recommended in the Examiner's statements of reasons for allowance, into dependent claim 28, thereby rewriting claim 28 as an independent claim. Consequently, Applicants respectfully submit that amended independent claim 28 is allowable for at least the reasons indicated on page 17, lines 12-17 of the Office Action.

In addition, Applicants have also incorporated the subject matter of claim 28 cited in the Examiner's reasons for allowance, into independent claim 26. Consequently, Applicants respectfully submit that independent claim 26 is allowable for at least the reasons indicated on page 17, lines 12-17 of the Office Action. Intervening claim 27 remains dependent on claim 26 and is therefore allowable for at least the reason that it depends from an allowable claim.

In light of the foregoing amendments and based on the arguments presented below, Applicants respectfully traverse the rejections of the claims under 35 U.S.C. §§ 102(e) and 103(a), and request allowance of pending claims 1-10, 12, and 15-29.

**I. Interview of December 4, 2006**

Applicants wish to thank Examiner Stephen Sherman and Supervisory Patent Examiner Amr Awad, for the courtesies extended during the interview held December 4, 2006, with Applicants' representatives. During the interview, Applicants' representatives presented arguments that the proposed amendments to the claims distinguished over the cited prior art. In particular, Applicants' representative presented arguments that the



cited prior art, taken alone, or in combination, does not teach or suggest connecting the controller and display units “in a closed serial loop,” as recited in Applicants’ independent claims 1, 6, 15, 18, and 29.

As stated in the Examiner’s Interview Summary form, the Examiner indicated that these amendments will be considered upon the filing of an official response. Accordingly, Applicants respectfully submit the enclosed amendments substantially as presented in the interview. In addition, Applicants submit the following remarks to expand upon the arguments presented in the interview.

## **II. Claim Rejections Under 35 U.S.C. § 102(e)**

### **A. Claims 15 and 29**

Claims 15 and 29 stand rejected under 35 U.S.C. § 102(e) as being anticipated by *McClintock*. By this amendment, Applicants have amended independent claims 15 and 29. Specifically, independent claim 15 has been amended to recite, “connecting the set of display units and the controller in a closed serial loop.” Similarly, independent claim 29 has been amended to recite, “means for connecting the set of display units and the controller in a closed serial loop.”

*McClintock* describes a system “for displaying visual presentation at remote locations on display arrays” where “[e]ach display [array] is made up of a set of digital playback units or devices (“DPU”) cooperating to provide a unified presentation.” *McClintock*, column 3, lines 3-7. “Each display location ... includes at least one local controller ... in communication with digital playback units of at least one display array ....” *Id.* at column 6, lines 7-9. “Local controller 112 preferably serves as a network



router and a DPU controller, [such that] local controller 112 manages communication between the Internet or other external network connection and the local area network, which connects the digital playback units in one or more particular arrays.” *Id.* at column 6, lines 33-38, Figures 1A-1B.

Thus, as the Examiner admits (Office Action at page 16, lines 1-4), *McClintock* describes a plurality of digital playback units connected to a local controller by means of parallel, not serial, connections. See *McClintock*, Figures 1A-1B. Therefore, *McClintock* does not teach “connecting the set of display units and the controller connected in a **closed serial loop**,” as recited in amended independent claim 15 (emphasis added). Similarly, *McClintock* fails to teach “means for connecting a set of display units, the set of display units and the controller connected in a **closed serial loop**,” as recited in amended independent claim 29 (emphasis added).

Accordingly, Applicants submit that *McClintock* fails to teach or suggest all the elements of Applicants’ amended independent claims 15 and 29. Independent claims 15 and 29 are therefore allowable over *McClintock*.

**B. Claims 16 and 17**

Claims 16 and 17 stand rejected under 35 U.S.C. § 102(e) as being anticipated by *McClintock*. By this amendment, Applicants have amended independent claim 16 to recite, “wherein the error message comprises an integer greater than a total number of display units in the set of display units and each display unit in the set of display units that receives the message decrements the integer.”



The Examiner states that “McClintock teaches a display unit ... generating an error message to be received by the controller ... where sending a ping after detecting a failing to receive a sync pulse constitutes an error message.” Office Action, page 3. However, in stating reasons for allowance of claim 28, the Examiner indicated that “the major difference between the prior art of record (McClintock, Matsuzaki, and Cok) and the instant invention is that said prior art does not teach a set of sign display panel elements wherein the error message comprises an integer greater than a total number of the set of display units and each display unit that receives the error message from the communication network decrements the integer.” Office Action, page 17, lines 12-17. Thus, Applicants have amended independent claim 16 to recite subject matter that the Examiner indicated to be allowable.

Accordingly, Applicants submit that *McClintock* fails to teach or suggest all the elements of Applicants’ amended independent claim 16 and that independent claim 16 is therefore allowable over the prior art of record for at least the same reasons cited by the Examiner with respect to claim 28. In addition, dependent claim 17 is allowable for at least the reason that it depends from an allowable claim.

### **III. Claim Rejections Under 35 U.S.C. § 103(a)**

#### **A. Claims 1-8, 18, 19 and 21**

Claims 1-8, 18, 19 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *McClintock* in view of *Matsuzaki*. In the Office Action, the Examiner cites *McClintock* as teaching “a sign display panel comprising: a controller (Fig. 1B, controller 112) connected to a set of display units (Fig. 1b, 132-142)....” Office Action,



page 5. However, as discussed above with respect to claims 15 and 29, *McClintock* appears to describe a plurality of digital playback units connected to a local controller by means of parallel connections. *McClintock* does not teach or suggest “[a] sign display panel comprising: a controller connected to a set of display units, the set of display units and the controller connected in a **closed serial loop**,” as recited in amended independent claim 1 (emphasis added). Similarly, *McClintock* fails to teach or suggest “connecting the set of display units and the controller in a **closed serial loop**,” as recited in amended independent claim 6 (emphasis added), and similarly recited in amended independent claim 18.

Moreover, *Matsuzaki* does not cure the above-cited deficiencies of *McClintock*. Rather, *Matsuzaki* describes an image control method and apparatus including a “display controller 100 and a display device 200.” *Matsuzaki*, column 3, lines 60-61. “The display controller 100 multiplexes signals ... [and] receives television signals that have been sent to it ... and outputs them to the display device 200 ... [where the display device 200 is] equipped with, e.g., a display panel having electron emission devices or the like ... for displaying images ... sent from the display controller 100.” *Id.* at column 3, line 61 through column 4, line 3. The “display device 200 includes a panel controller 201 for controlling the overall operation of the display device 200,” and a display panel 210. *Id.* at column 5, lines 44-46. See also *id.* at FIG. 5. In one embodiment, “the display panel 210 is divided into a display panel 210a for displaying the upper half and a display panel 210b for displaying the lower half.” *Id.* at column 12, lines 4-6. However, these display panels are connected in parallel within a single display device. See FIG. 22 and FIGS. 24 and 25 (showing parallel data streams PDU and PDL).



Thus, neither *Matsuzaki* nor *McClintock* teach or suggest “the set of display units and the controller connected in a closed serial loop,” as recited in amended independent claim 1. Further, neither *Matsuzaki* nor *McClintock* teach or suggest “connecting the set of display units and the controller in a closed serial loop,” as recited in amended independent claim 6, and similarly recited in amended independent claim 18.

For at least these reasons, Applicants submit that neither *McClintock*, nor *Matsuzaki*, nor any combination of the two, teach or suggest all the elements of Applicants’ amended independent claims 1, 6, and 18. Accordingly, Applicants submit that amended independent claims 1, 6, and 18 are therefore allowable over *McClintock* in view of *Matsuzaki*. In addition, dependent claims 2-5, 7-8, 19, and 21 are allowable for at least the reason that they depend from an allowable claim.

**B. Claims 22-25**

Claims 22-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *McClintock* in view of *Matsuzaki*. By this amendment, Applicants have amended independent claim 22 to recite, “wherein the error message comprises an integer greater than a total number of display units in the set of display units and each display unit that receives the message decrements the integer.”

In the Office Action, the Examiner cites *McClintock* as teaching “[a] controller comprising: ... a memory (see col. 7, lines 42-43) comprising controller software configured for execution by the central processing unit (see col. 6, lines 30-33).” Office Action, page 12. While the Examiner indicates that *McClintock* “does not explicitly



teach a controller determining an error in the communication network based on the message received in response to each of the series of communication integrity messages," the Examiner also states that "Matsuzaki does teach a controller determining an error in the communication to a display unit based on a message received in response to each of the series of communication integrity messages." *Id.*

However, in stating reasons for allowance of claim 28, the Examiner indicated that "the major difference between the prior art of record (McClintock, Matsuzaki, and Cok) and the instant invention is that said prior art does not teach a set of sign display panel elements wherein the error message comprises an integer greater than a total number of the set of display units and each display unit that receives the error message from the communication network decrements the integer." Office Action, page 17, lines 12-17. Thus, Applicants have amended independent claim 22 to recite subject matter that the Examiner indicated to be allowable.

Accordingly, Applicants submit that neither *McClintock*, nor *Matsuzaki*, nor any combination of the two, teach or suggest all the elements of Applicants' amended independent claim 22. Independent claims 22 is therefore allowable over the prior art of record for at least the same reasons cited by the Examiner with respect to claim 28. In addition, dependent claims 23-25 are allowable for at least the reason that they depend from an allowable claim.

**C. Claims 9, 10 and 12**

With respect to independent claim 9, the Examiner indicates that "[c]laim 14 ... [is] objected to as being dependent on a rejected base claim, [i.e., independent claim 9,]



but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.” Office Action, page 17. Specifically, the Examiner indicates that “the major difference between the prior art of record (McClintock, Matsuzaki, and Cok) and the instant invention is that said prior art does not teach a display unit comprising instructions for executing the message if the address byte is 0 or decrementing the address byte and sending the message to another display unit if the address byte is greater than zero.” *Id.* Accordingly, Applicants have amended independent claim 9 to include, *inter alia*, the recitations of dependent claims 11, 13, and 14, cited in the Examiner’s statement of reasons for allowance.

Specifically, independent claim 9 has been amended to recite, “determining if the message is at least one of a communication integrity message, a global message, or a local message,” “reading an address byte of the message if the message is a local message,” and “executing the message if the address byte is 0 or decrementing the address byte and sending the message to another display unit if the address byte is greater than zero.”

Thus, Applicants submit that amended independent claim 9 is therefore allowable over *McClintock* in view of *Matsuzaki* for at least the reasons indicated in the Examiner’s statement of reasons for allowance. In addition, intervening dependent claims 10 and 12 remain dependent from claim 9 and are allowable at least due to their dependence from an allowable claim.



**D. Claim 20**

Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *McClintock* in view of *Matsuzaki* and in further view of *Minami*. As discussed above with respect to claims 15 and 29, *McClintock* describes a plurality of digital playback units connected to a local controller by means of parallel connections. *Matsuzaki* describes a pair of display panels, the display panels connected in parallel within a single display device. Thus, *McClintock* and *Matsuzaki* fail to teach, “connecting the set of display units and the controller in a closed serial loop,” as recited in claim 18 (from which claim 20 depends).

Moreover, *Minami* does not cure the deficiencies of *McClintock* and *Matsuzaki* set forth above. Rather, *Minami* appears to teach individual devices connected by way of one or more networks. See *Minami*, paragraph 0025. Thus, neither *McClintock*, *Matsuzaki*, nor *Minami* teach or suggest “connecting the set of display units and the controller in a **closed serial loop**,” as recited in amended independent claim 18, from which claim 20 depends (emphasis added).

Accordingly, claim 20 is allowable over the applied references at least due to its dependence from allowable claim 18.

**E. Claims 26 and 27**

Claims 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *McClintock* in view of *Cok*. The Office Action states that “[c]laim 28 ... [is] objected to as being dependent on a rejected base claim, [i.e., independent claim 26,] but would be allowable if rewritten in independent form including all of the limitations of the base



claim and any intervening claims.” Office Action, page 17. Specifically, the Examiner indicates that “the major difference between the prior art of record (McClintock, Matsuzaki, and Cok) and the instant invention is that said prior art does not teach a set of sign display panel elements wherein the error message comprises an integer greater than a total number of the set of display units and each display unit that receives the error message from the communication network decrements the integer.”

Accordingly, Applicants have amended claim 26 to include, *inter alia*, the recitations of dependent claim 28 cited in the Examiner’s statement of reasons for allowance. Specifically, independent claim 26 has been amended to recite, “wherein the error message comprises an integer greater than a total number of the set of display units and each display unit that receives the error message from the communication network decrements the integer.”

Thus, Applicants submit that amended independent claim 26 is therefore allowable over *McClintock* in view of *Cok* for at least the reasons indicated in the Examiner’s statement of reasons for allowance. In addition, dependent claim 27 is allowable at least due to its dependence from an allowable claim.

***F. Claim 28***

As discussed above, the Office Action states that “[c]laim 28 ... [is] objected to as being dependent on a rejected base claim, [i.e., independent claim 26,] but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims [i.e., claim 27].” Office Action, page 17. Specifically, the Examiner indicates that “the major difference between the prior art of record



(McClintock, Matsuzaki, and Cok) and the instant invention is that said prior art does not teach a set of sign display panel elements wherein the error message comprises an integer greater than a total number of the set of display units and each display unit that receives the error message from the communication network decrements the integer.”

Accordingly, Applicants have rewritten claim 28 in independent form including all of the limitations of claim 26 (the base claim) and claim 27 (the sole intervening claim). Thus, Applicants submit that amended independent claim 28 is therefore allowable over *McClintock* in view of *Cok* for at least the reasons indicated in the Examiner’s statement of reasons for allowance.



#### IV. Conclusion

In view of the above, Applicants respectfully submit that pending claims 1-10, 12, and 15-29 are allowable over the cited art. Accordingly, Applicants respectfully request reconsideration and reexamination of this application and timely allowance of the pending claims. If the Examiner believes a telephone interview might advance prosecution, the Examiner is invited to call Applicants' undersigned attorney at 571-203-2751.

Finally, Applicants note that the Office Action contains a number of statements characterizing either the cited art or the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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